

REMARKS/ARGUMENTS

Claims 1 – 20 are presented for reconsideration and further examination in view of the foregoing amendments and following remarks.

In the outstanding Office Action, claims 4, 7, 8, 11, 12, 16 and 17 were objected to as being in improper multiple dependent form; claims 1 – 3, 9, 10 and 13 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,895,848 to Wilson et al. (hereinafter referred to as “the Wilson et al. ‘848 patent”); claims 5, 6, 14, 15, and 18 – 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Wilson et al. ‘848 patent

By this Response and Amendment,

claim 1 has been amended to replace the phrase “and/or” with the term – and –;

claim 19 has been amended to replace the phrase “detecting a prescribed deviation” with “detecting a deviation in amplitude and frequency;” and

the claim objection and the rejections under 35 U.S.C. §§102 and 103 are traversed.

Support for the amendments to claims 1 and 19 can be found on page 3, lines 15 – 20 and on page 12, lines 13 – 15 of the originally filed specification. Therefore, it is respectfully submitted that the above amendments and corrections do not introduce any new matter to this application within the meaning of 35 U.S.C. §132.

Objection to the Claims

The Examiner objected to claims 4, 7, 8, 11, 12, 16 and 17 as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim.

Response

By this Response and Amendment, Applicant respectfully traverses the Examiner’s

rejection.

It is not improper for a claim to depend from a multiple dependent claim. Section 608.01(n) of the MPEP states that “35 U.S.C. 112 authorizes multiple dependent claims in applications filed on and after January 24, 1978, as long as they are in the alternative form.” A prohibition applied to multiple dependent claims is found under 37 C.F.R. §1.75(c), which states that “[a] multiple dependent claim shall not serve as a basis for any other multiple dependent claim.” However, claims 4, 7, 8, 11, 12, 16 and 17 are not multiple dependent claims depending from multiple dependent claim 3. Claims 4, 7, 8, 11, 12, 16 and 17 depend only from claim 3 and, therefore, are not themselves multiple dependent claims and, according to 37 C.F.R. §1.75(c), properly depend from multiple dependent claim 3.

Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the objection to the claims.

Rejections Under 35 U.S.C. §102(b)

The Examiner rejected claims 1 – 3, 9, 10 and 13 as being anticipated by the Wilson et al. ‘848 patent.

Response

By this Response and Amendment, Applicant respectfully traverses the Examiner’s rejection.

Independent claim 1 recites “[a] filling level sensor comprising a tunable electrical resonant circuit, a mechanical oscillator that can be excited to resonance oscillation by the resonant circuit, and a control circuit for tuning the resonant circuit to a resonance frequency of the mechanical oscillator, comprising a device for comparing the amplitude and frequency of the mechanical

oscillator with a value, and for detecting a malfunction of the mechanical oscillator if its amplitude and frequency deviates from this value in the prescribed manner.”

The Wilson et al. ‘848 patent discloses a vibration measuring apparatus having a tuning fork, which detects the frequency of an output signal. The system disclosed in the Wilson et al. ‘848 patent continuously operates at or near the tuning fork’s frequency in order to minimize power consumption. The cited prior art system senses the presence of a solid by determining that the feedback control system fails to lock the frequency of the excitation signal at any one particular value and thus varies continuously. Thus, the cited prior art system compares the frequency of the excitation signal with a frequency threshold to determine the presence of a solid, which could cause a malfunction of the system.

In contrast to the presently claimed invention, the Wilson et al. ‘848 patent does not disclose, teach, or suggest “a device for comparing the amplitude and frequency of the mechanical oscillator with a value” as recited in amended independent claim 1. Rather, the Wilson et al. ‘848 patent only discloses comparison of an output signal’s frequency to a threshold value. For at least the reason that “a device for comparing the amplitude and frequency of the mechanical oscillator with a value” is not disclosed, taught, or suggested by the cited prior art, the cited prior art does not anticipate the presently claimed invention. Since claims 2 – 3, 9 – 10 and 13 depend directly or indirectly from claim 1, the prior art also does not anticipate these claims.

Also in contrast to the presently claimed invention, the Wilson et al. ‘848 patent does not disclose, teach or suggest “a device... for detecting a malfunction of the mechanical oscillator if its amplitude and frequency deviates from this value in the prescribed manner” also as recited in amended independent claim 1. Again, the Wilson et al. ‘848 patent only discloses comparison of an output signal’s frequency to a threshold value. As “a device... for detecting a malfunction of

the mechanical oscillator if its amplitude and frequency deviates from this value in the prescribed manner" is also not disclosed, taught or suggested by the cited prior art, the cited prior art does not anticipate the presently claimed invention.

An advantage to the presently claimed invention is that if the frequency and the amplitude of the output signal are detected and correlated together, better recognition of whether there is a malfunction in the system is possible.

Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the rejection under 35 U.S.C. §102(b)

Rejections Under 35 U.S.C. §103(a)

The Examiner rejected claims 5, 6, 14, 15, and 18 – 20 as being unpatentable over the Wilson '848 patent.

Response

The arguments above with respect to claim 1 and with respect to the Wilson et al. '848 patent are hereby incorporated by reference and applied to claims 5, 6, 14, 15 and 18, which depend directly or indirectly from claim 1. By this Response and Amendment, claim 19 has been amended and, as amended, Applicant respectfully traverses the Examiner's rejection.

Amended independent claim 19 recites “[a] process for detecting a malfunction in a filling level measurement system with a filling level sensor comprising a tunable electrical resonant circuit, a mechanical oscillator that can be excited to resonance oscillation by the resonant circuit, and a control circuit for tuning the resonant circuit to a resonance frequency of the mechanical oscillator, comprising storing an ideal frequency-amplitude progression of a correct filling process as a reference measurement, and detecting a deviation in amplitude and frequency from this ideal

frequency-amplitude progression as a malfunction.”

The Wilson et al. '848 patent does not disclose, teach, or suggest the step of “detecting a deviation in amplitude and frequency... as a malfunction” as recited in amended independent claim 19. As stated above with respect to claim 1, the Wilson et al. '848 patent only detects frequency, not amplitude. As the ability to detect deviations in amplitude and frequency as a malfunction is not disclosed, taught or, suggested by the cited prior art, the cited prior art does not render claims 5, 6, 14, 154 and 18 – 20 obvious.

Accordingly, Applicant respectfully requests that the Examiner reconsider and withdraw the outstanding rejections.

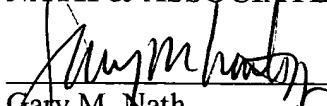
CONCLUSION

In light of the foregoing, Applicant submits that the application is now in condition for allowance. If the Examiner believes the application is not in condition for allowance, Applicant respectfully requests that the Examiner contact the undersigned attorney if it is believed that such contact will expedite the prosecution of the application.

In the event this paper is not timely filed, Applicant petitions for an appropriate extension of time. Please charge any fee deficiency or credit any overpayment to Deposit Account No. 14-0112.

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